



FIXED ASSETS

COURSE: INNOVATION DEVELOPMENT IN
COMMERCIAL BANKS

PRESENTED BY FARKHOD ODILOV



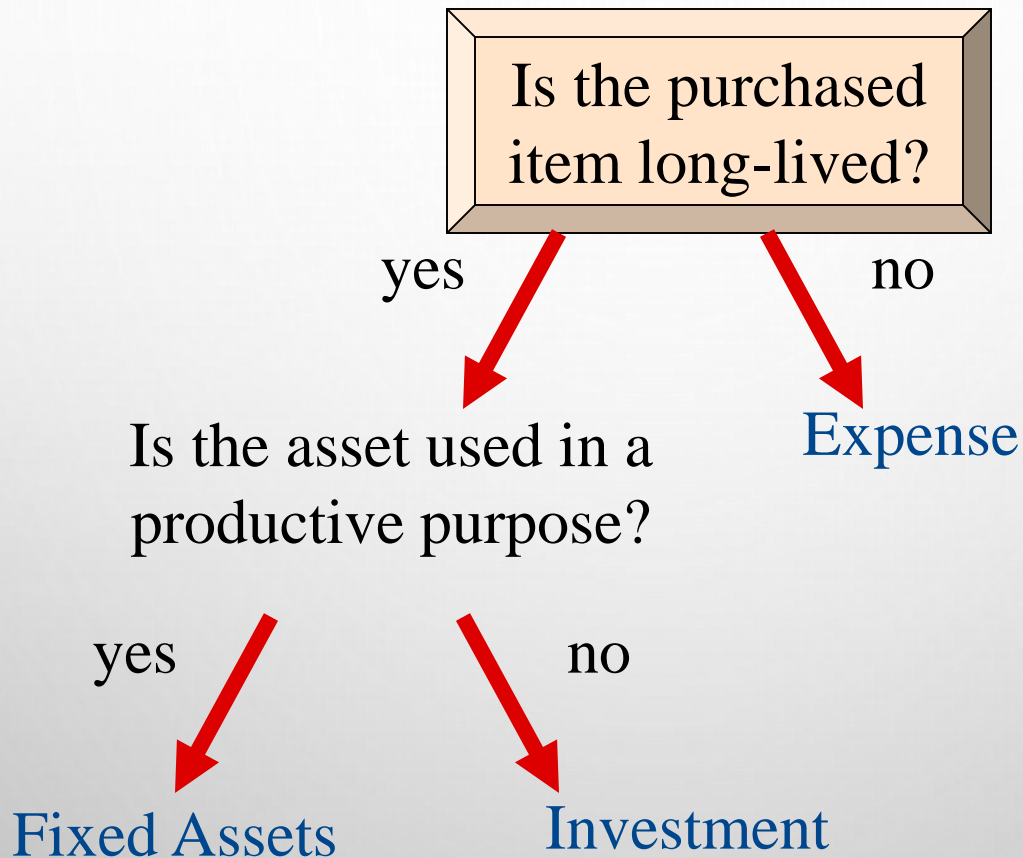
Objective 1

Define, classify, and account for the cost of fixed assets.

Nature of Fixed Assets

Fixed assets are long-term or relatively permanent assets. They are *tangible assets* because they exist physically. They are owned and used by the business and are not offered for sale as part of normal operations.

Classifying Costs



Cost of Acquiring Fixed Assets

LAND

- Purchase price
- Sales taxes
- Permits from government agencies
- Broker's commissions
- Title fees
- Surveying fees
- Delinquent real estate taxes
- Razing or removing unwanted buildings, less any salvage
- Grading and leveling
- Paving a public street bordering the land

BUILDING

- Architects' fees
- Engineers' fees
- Insurance costs incurred during construction
- Interest on money borrowed to finance construction
- Walkways to and around the building
- Sales taxes
- Repairs (purchase of existing building)
- Reconditioning (purchase of existing building)
- Modifying for use
- Permits from government agencies

Cost of Acquiring Fixed Assets

MACHINERY AND EQUIPMENT

- Sales taxes
- Freight
- Installation
- Repairs (purchase of used equipment)
- Reconditioning (purchase of used equipment)
- Insurance while in transit
- Assembly

- Modification for user
- Testing for use
- Permits from government agencies

LAND IMPROVEMENT

- Trees and shrubs
- Fences
- Outdoor lighting
- Paved parking areas

Cost of Acquiring Fixed Assets Excludes:

- Vandalism
- Mistakes in installation
- Uninsured theft
- Damage during unpacking and installing
- Fines for not obtaining proper permits from government agencies

Capital and Revenue Expenditures

Expenditures that benefit only the current period are called *revenue expenditures*.

Expenditures that improve the asset or extend its useful life are *capital expenditures*.

REVENUE EXPENDITURES

Normal and ordinary repairs and maintenance

CAPITAL EXPENDITURES

- 1) Additions
- 2) Improvements
- 3) Extraordinary repairs

Ordinary Maintenance and Repairs

On April 9, the firm paid \$300 for a tune-up of a delivery truck.

Apr.	9	Repairs and Maintenance Exp.			300	00			
		Cash						300	00

This is a revenue expenditure

Asset Improvements

On May 4, a \$5,500 hydraulic lift was installed on the delivery truck to allow for easier and quicker loading of heavy cargo.

May	4	Delivery Truck		5,500.00				
		Cash				5,500.00		

This is a capital expenditure

Leasing Fixed Assets

A *capital lease* is accounted for as if the lessee has, in fact, purchased the asset. The asset is then amortized over the life of the capital lease.

A lease that is not classified as a capital lease for accounting purposes is classified as an *operating lease* (an operating lease is treated as an expense).

Objective 2

Compute depreciation using the following methods: straight-line method, units-of-production method, double-declining-balance method.

Accounting for Depreciation

Over time, fixed assets such as equipment, buildings, and land improvements lose their ability to provide services. The periodic transfer of the cost of fixed assets to expense is called *depreciation*.

Physical depreciation occurs from wear and tear while in use and from the action of the weather. *Functional depreciation* occurs when a fixed asset is no longer able to provide services at the level for which it was intended.

Factors in Computing Depreciation

The three factors in determining the amount of depreciation expense to be recognized each period are: (a) the fixed asset's initial cost, (b) its expected useful life, and (c) its estimated value at the end of the useful life.

The fixed asset's **estimated value** at the end of its useful life is called the *residual value*, *scrap value*, *salvage value*, or *trade-in value*. A fixed asset's residual value and its *expected useful life* must be estimated at the time the asset is placed in service.

Straight-Line Method

The *straight-line method* provides for the same amount of depreciation expense for each year of the asset's useful life.

$$\text{Annual depreciation} = \frac{\text{Cost} - \text{estimated residual value}}{\text{Estimated life}}$$

A depreciable asset cost \$24,000. Its estimated residual value is \$2,000 and its estimated life is 5 years.

$$\text{Annual depreciation} = \frac{\text{Cost} - \text{estimated residual value}}{\text{Estimated life}}$$

$$\text{Annual depreciation} = \frac{\$24,000 - \$2,000}{5 \text{ years}}$$

$$\text{Annual depreciation} = \mathbf{\$4,400}$$

The straight-line method is widely used by firms because it is simple and it provides a reasonable transfer of cost to periodic expenses if the asset is used about the same from period to period.

Units-of-Production Method

The *units-of-production method* provides for the same amount of depreciation expense for each unit produced or each unit of capacity used by the asset.

$$\text{Unit depreciation} = \frac{\text{Cost} - \text{estimated residual value}}{\text{Estimated hours, units, etc.}}$$

A depreciable asset cost \$24,000. Its estimated residual value is \$2,000 and its expected to have an estimated life of 10,000 operating hours.

$$\text{Hourly depreciation} = \frac{\text{Cost} - \text{estimated residual value}}{\text{Estimated hours}}$$

$$\text{Hourly depreciation} = \frac{\$24,000 - \$2,000}{10,000 \text{ estimated hours}}$$

$$\text{Hourly depreciation} = \mathbf{\$2.20} \text{ hourly depreciation}$$

The units-of-production method is more appropriate than the straight-line method when the amount of use of a fixed asset varies from year to year.

Double-Declining-Balance Method

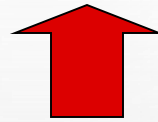
The *double-declining-balance method* provides for a declining periodic expense over the estimated useful life of the asset.

A double-declining balance rate is determined by doubling the straight-line rate. A shortcut to determining the straight-line rate is to divide one by the number of years ($1/5 = .20$). Hence, using the double-declining- balance method, a five-year life results in a 40 percent rate ($.20 \times 2$).

For the first year, the cost of the asset is multiplied by 40 percent. After the first year, the declining *book value* of the asset is multiplied 40 percent. Continuing with the example where the fixed asset cost \$24,000 and has an expected residual value of \$2,000, a table can be built.

Year	Book Value Beginning of Year	Rate	Annual Deprec.	Accum. Deprec. Year-End	Book Value Year-End
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1	\$24,000	40%	\$9,600		
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$\$24,000 \times .40$


Year	Book Value Beginning of Year	Rate	Annual Deprec.	Accum. Deprec. Year-End	Book Value Year-End
1	\$24,000	40%	\$9,600	\$9,600	\$14,400
2	14,400	40%	5,760	15,360	8,640
3	8,640	40%	3,456	18,816	5,184
4	5,184	40%	2,074	20,890	3,110
5	3,110	40%	1,244	22,134	1,866

**DEPRECIATION STOPS WHEN
BOOK VALUE EQUALS
RESIDUAL VALUE!**



Year	Book Value Beginning of Year	Rate	Annual Deprec.	Accum. Deprec. Year-End	Book Value Year-End
1	\$24,000	40%	\$9,600	\$9,600	\$14,400
2	14,400	40%	5,760	15,360	8,640
3	8,640	40%	3,456	18,816	5,184
4	5,184	40%	2,074	20,890	3,110
5	3,110	– \$2,000	1,110	22,000	2,000

“Forced”
annual
depreciation



Desired ending
book value



Depreciation for Federal Income Tax

The Internal Revenue Code specifies the *Modified Accelerated Cost Recovery System (MACRS)* for use by businesses in computing depreciation for tax purposes.

MACRS specifies eight classes of useful life and depreciation rates for each class. The two most common classes are the 5-year class (includes automobiles and light duty trucks) and the 7-year class (includes most machinery and equipment).

Revising Depreciation Estimates

A machine purchased for \$140,000 was originally estimated to have a useful life of five years and a residual value of \$10,000. The asset has been depreciated for two years using the straight-line method.

$$\text{Annual Depreciation (S/L)} = \frac{\$140,000 - \$10,000}{5 \text{ years}}$$

$$\text{Annual Depreciation (S/L)} = \mathbf{\$26,000} \text{ per year}$$

At the end of two years, the asset's book value is \$88,000, determined as follows:

Asset cost	\$140,000
Less accumulated depreciation (\$26,000 per year x 2 years)	<u>52,000</u>
Book value, end of second year	<u><u>\$ 88,000</u></u>

During the third year, the company estimates that the remaining useful life is eight years (instead of three) and that the residual value is \$8,000 (instead of \$10,000). Depreciation expense for each of the remaining eight year is determined as follows:


Book value, end of second year	\$88,000
Less revised estimated residual value	<u>8,000</u>
Revised remaining depreciation cost	<u><u>\$80,000</u></u>
Revised annual depreciation expense (\$80,000 ÷ 8 years)	<u><u>\$10,000</u></u>

Objective 3

*Journalize entries
for the disposal of
fixed assets.*

Equipment costing \$6,000 is depreciated at an annual straight-line rate of 10%. Before the adjusting entry, ***Accumulated Depreciation—Equipment*** had a \$4,750 balance. The equipment was discarded on March 24.

Mar. 24	Depreciation Expense—Equipment		150	00			
	Accum. Depr.—Equipment					150	00
	To record current						
	depreciation on						
	equipment discarded.						


 $\$600 \times 3/12$

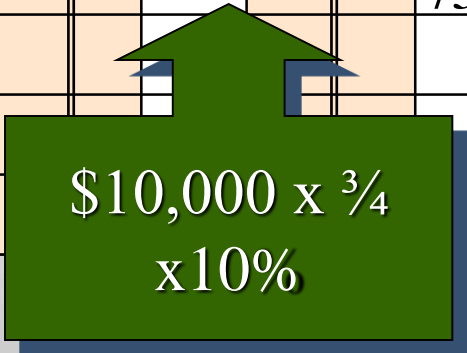
The discarding of the equipment is then recorded by the following entry:

Mar.	24	Accum. Depreciation—Equipment	4 900 00				
		Loss on Disposal of Fixed Assets	1 100 00				
		Equipment				6 000 00	
		To write off equipment					
		discarded.					

Selling Fixed Assets

Equipment costing \$10,000 is depreciated at an annual straight-line rate of 10%. The equipment is sold for cash on October 12. **Accumulated Depreciation** (last adjusted December 31) has a balance of \$7,000 and needs to be updated.

Oct.	12	Depreciation Expense—Equipment			750	00			
		Accum. Depr.—Equipment					750	00	
		To record current							
		depreciation on							
		equipment sold.							



$$\$10,000 \times \frac{3}{4} \times 10\%$$

Objective 4

Compute depletion and journalize the entry for depletion.

Natural Resources

The process of transferring the cost of natural resources to an expense account is called *depletion*.

Recording Depletion

A business paid \$400,000 for the mining rights to a mineral deposit estimated at 1,000,000 tons of ore. The depletion rate is \$0.40 per ton ($\$400,000/1,000,000$ tons).

If 90,000 tons are mined during the year, an adjusting entry is required at the end of the accounting period.

		Adjusting Entry						
Dec.	31	Depletion Expense		36	000	00		
		Accumulated Depletion					36	000 00
		Depletion of mineral						
		deposit.						

Objective 5

*Describe the accounting
for intangible assets,
such patents, copyrights,
and goodwill.*

Intangible Assets

Patents, copyrights, trademarks, and goodwill are long-lived assets that are useful in the operations of a business and not held for sale. These assets are called *intangible assets* because they do not exist physically.

The exclusive right granted by the federal government to manufacturers to produce and sell goods with one or more unique features is a *patent*. These rights continue in effect for **20** years.

Journalizing Amortization of a Patent

At the beginning of its fiscal year, a business acquires a patent right for \$100,000. Its remaining useful life is estimated at 5 years.

		Adjusting Entry							
Dec.	31	Amortization Expense—Patents		20 000 00					
		Patents				20 000 00			
		Patent amortization							
		(\$100,000/5).							

Because a patent (and other intangible assets) does not exist physically, it is acceptable to credit the asset. This approach is different from physical fixed assets that require the use of a contra asset account.

Copyright

The exclusive right granted by the federal government to publish and sell a literary, artistic, or musical composition is a *copyright*. A copyright extends for **70** years beyond the author's death.

Trademark

A *trademark* is a unique name, term, or symbol used to identify a business and its products. Most businesses identify their trademarks with ® in their advertisements and on their products. Trademarks can be registered for **10** years and can be renewed every 10 year period thereafter.

Goodwill

In business, *goodwill* refers to an intangible asset of a business that is created from such favorable factors as location, product quality, reputation, and managerial skill.

Generally accepted accounting principles permit goodwill to be recorded in the accounts only if it is objectively determined by a transaction.

Objective 6

Describe how depreciation expense is reported in an income statement, and prepare a balance sheet that includes fixed assets and intangible assets.

- The amount of each major class of fixed assets should be disclosed in the balance sheet or in notes.
- The fixed assets may be shown at their *net* amount.

Office equipment	\$125,750
Less accumulated depreciation	<u>86,300</u>
Net book value	<u>\$ 39,450</u>

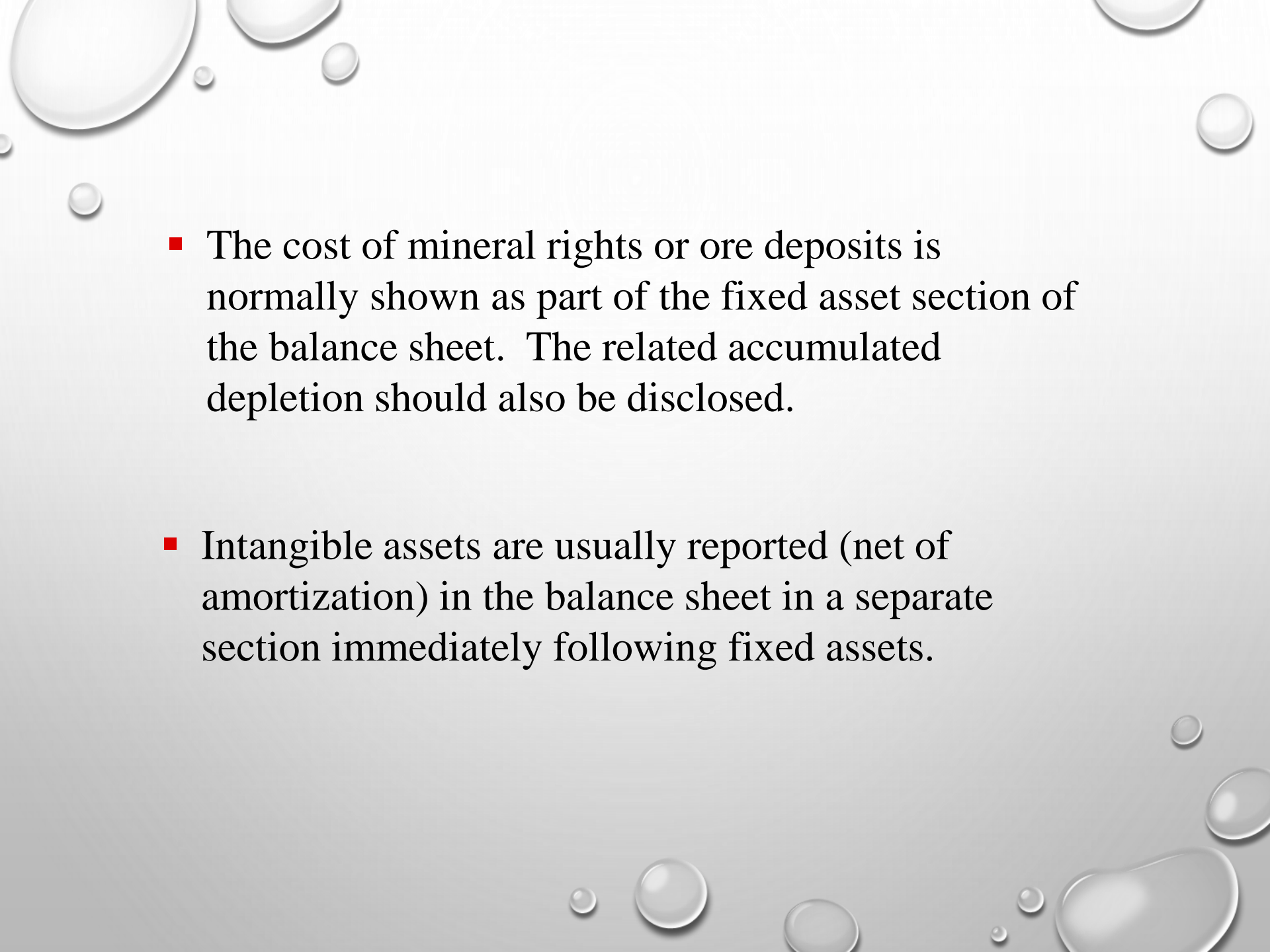
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- The cost of mineral rights or ore deposits is normally shown as part of the fixed asset section of the balance sheet. The related accumulated depletion should also be disclosed.
 - Intangible assets are usually reported (net of amortization) in the balance sheet in a separate section immediately following fixed assets.

EXHIBIT 12**Fixed Assets and Intangible Assets in the Balance Sheet**

**Discovery Mining Co.
Balance Sheet
December 31, 2008**

Assets

Total current assets				\$ 462,500
Property, plant, and equipment:	Cost	Accum. Depr.	Book Value	
Land	\$ 30,000	—	\$ 30,000	
Buildings	110,000	\$ 26,000	84,000	
Factory equipment	650,000	192,000	458,000	
Office equipment	120,000	13,000	107,000	
	<u>\$ 910,000</u>	<u>\$ 231,000</u>		\$679,000
Mineral deposits:	Cost	Accum. Depl.	Book Value	
Alaska deposit	\$1,200,000	\$ 800,000	\$400,000	
Wyoming deposit	750,000	200,000	550,000	
	<u>\$1,950,000</u>	<u>\$1,000,000</u>		<u>950,000</u>
Total property, plant, and equipment				1,629,000
Intangible assets:				
Patents				\$ 75,000
Goodwill				<u>50,000</u>
Total intangible assets				125,000

Fixed Asset Turnover Ratio

One measure of the revenue-generating efficiency of fixed assets is the *fixed asset turnover ratio*. It measures the number of dollars of revenue earned per dollar of fixed assets and is computed as follows:

$$\text{Fixed Asset Turnover Ratio} = \frac{\text{Revenue}}{\text{Average Book Value of Fixed Assets}}$$

Financial Analysis and Interpretation

For Marriott International, Inc. (in millions)

$$\text{Fixed Asset Turnover Ratio} = \frac{\text{Revenue}}{\text{Average Book Value of Fixed Assets}}$$

$$\text{Fixed Asset Turnover Ratio} = \frac{\$11,550}{(\$2,341 + 2,389)/2}$$

$$\text{Fixed Asset Turnover Ratio} = \mathbf{4.88}$$

Conclusion: For every dollar of fixed assets, Marriott earns \$4.88 of revenue.

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